

Peabody, Daniel (EGLE)

From: Roberts, Keegan <robertsk@cdmsmith.com>
Sent: Tuesday, May 26, 2020 3:55 PM
To: Paul Ruesch
Cc: Peabody, Daniel (EGLE); Ruhala, Sydney (EGLE); Bennett, Brian
Subject: Kalamazoo Area 4 Trowbridge Dam TCRA: EGLE comments on removal workplan
Attachments: Comment Form_Area 4 Removal Work Plan_EGLEcomments.xlsx

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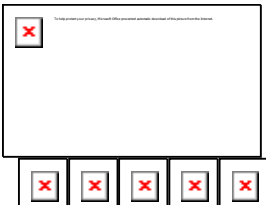
Hi Paul,

As Dan and Sydney are furloughed today, I wanted to pass along on their behalf the attached EGLE comments on the Kalamazoo Area 4 Trowbridge Dam TCRA. If you have any questions or concerns, please feel free to give me a call.

Thanks,
Keegan

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1	WORK PLAN COMMENT / INPUT FORM					
2	Trowbridge Dam TCRA					
3	DOCUMENT NAME: DRAFT Removal Work Plan, version 04/30/2020					
4	ITEM NO.	REVIEWER	REFERENCE TO GEI SUBMITTAL Section X.X, Page XX) (i.e.,	COMMENT (+ reference(s) to support)	SUGGESTION / RECOMMENDATION	GEI Response to Comments (date)
5	1	EGLE	General Comment	General Comment	EGLE notes that it has concerns regarding the accuracy/representativeness of the recent SRI total PCB concentrations. Efforts to rectify these concerns and identify appropriate total PCB quantification protocols/laboratories have been initiated. EGLE will happily engage with any stakeholders on this topic upon their request.	
6	2	EGLE	2.1 Location and Current Site Description, p. 3	<p>The Action Memorandum specifies that the scope of work is limited to sediment removal in Subareas E, F, and G and bank soil removal in Subareas C, D, and E.</p> <p>Page 9 of the Action Memorandum states, "The TCRA will include, but may not be limited to the following tasks: 1) Dredging and/or excavation of PCB contaminated in-stream sediments and riverbank/floodplain soils with elevated PCB concentrations (see estimated excavation area maps in Figures 3 & 4 to meet clean-up standards below."</p> <p>Figure 4 of the Action Memorandum states, "Riverbank bank soil removal is anticipated in Subareas C, D, and E."</p> <p>Figures 6 and 7 of the Removal Work Plan are labeled "Proposed Sediment Remediation" and "Proposed Bank Remediation".</p>	In order to achieve the tasks and removal targets of the Action Memo, work may need to be performed outside of or adjacent to Subareas described in the text. This section (and all applicable sections) should be revised to acknowledge that work may be performed in other Subareas depending on the results of the PDI sampling in order to meet the Tasks and Clean-up Standards described in the Action Memo.	
7	3	EGLE	2.1 Location and Current Site Description, p. 3	The text reads as follows: "The Michigan Department of Environment, Great Lakes, and Energy is the owner of the Dam and some of the surrounding property."	Revise the text to correctly state that the owner of the Dam and some of the surrounding property is the Michigan Department of Natural Resources.	
8	4	EGLE	2.1 Location and Current Site Description, p. 4	The text reads as follows: "There are several small privately-owned parcels located within the Area 4 boundaries, however no residences are situated within its limits. "	The text should include additional discussion on this topic based on discussions in the Human Health Risk Assessment. Example discussion includes: <i>"Residential properties are found immediately adjacent to the exposed sediments behind the Trowbridge and Otsego Dams. In some areas, the gray paper residual waste can be observed in the backyards of residential homes along the river. Additionally, the construction of a golf course behind the Trowbridge impoundment occurred on top of and immediately adjacent to exposed sediments containing paper residual waste. In particular, residential development has occurred adjacent to exposed floodplain soil in the vicinity of the former Trowbridge, Otsego, and Plainwell dams. These areas are completely accessible to the public and, in essence, form the "backyard" for some residents."</i>	
9	5	EGLE	3. Project Approach, p.6	The text reads as follows: "Dredging (mechanical and/or hydraulic) of PCB-contaminated in-stream sediments and excavation of riverbank/floodplain soils with PCB concentrations exceeding cleanup standards."	Given the heterogeneity in PCB concentrations present throughout much of the site, please discuss if dredge prisms will be backfilled following removal, including the potential use of residual control layers. EGLE has concerns that "unfilled" dredge prisms may allow for contaminated sediments (either generated residuals or those materials just below the cut line) to be exposed and eroded during subsequent high energy flow events.	
10	6	EGLE	3.1 Cleanup Standards, p. 7	<p>Following water level lowering and dam removal, it is anticipated that portions of Subareas F and G will no longer be inundated, and former sediments will become dry bank or floodplain material under normal flow conditions. Therefore, 5.0 mg/kg will serve as the cleanup standard for these areas.</p> <p>Inundation during above-normal flows will need to be considered. Site standards for the inundation frequency, time, and depth were developed to determine when the aquatic pathway may be complete and the application of sediment clean-up goals may be necessary.</p>	Discussion on the future inundation conditions and risk-based clean-up goals will be necessary for these locations as well as other locations that experience flooding during above-normal flow conditions since it is unclear if 5.0 mg/kg is a protective clean-up value for that scenario. Revise the document to state that 5.0 mg/kg is proposed for these areas and final clean-up values will be approved by EPA.	

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11	7	EGLE	4. Pre-Design Investigation, p. 8	Refining the horizontal and vertical extent of bank soils and near-bank sediments in Subareas C, D, and E with PCB concentrations equal to or greater than the cleanup standard of 5.0 mg/kg. This data will be used in coordination with historical data (as applicable) to define the bank segments requiring removal to meet the post-remediation SWAC standard. 2. Refining the horizontal and vertical extent of current in-stream sediments in Subareas E, F, and G with PCB concentrations equal to or greater than the cleanup standard of 1.0 mg/kg. This data will be used in coordination with historical data (as applicable) to define the dredge prisms requiring removal to meet the post-remediation SWAC standard.	Revise the document to clarify what criteria is used to determine when "historic" data will be used, and what data is considered "historic". For soils, EGLE recommends the use of all data ("historic" [pre-SRI] and SRI) unless there is adequate evidence to remove it from consideration (i.e. an entire section of bank eroded into the river and the former soil sample location is now in the main channel). The EPA-approved Area 4 SRI used all soil data (pre-SRI and SRI) to generate remedial footprints for the floodplain. For sediments, the 2014 and 2015 SRI data likely does not represent the current condition. The high spatial heterogeneity of PCB concentrations in sediments and bank soils at the site should be considered as GEI continues to develop the excavation, dredging, and backfilling designs. For example, Section 5.4 discusses disposing of sediments and bank soils as non-TCSA or TSCA waste (i.e. <50 ppm or ≥50 ppm) dependent on pre-design investigation sampling. It is important to note that while PCB concentrations at one sampling location may be <50 ppm, it does not necessarily mean that concentrations in adjacent soil/sediments are also <50 ppm. Further, Section 5.4 discusses reusing bank soils and sediments that do not exceed restoration targets (i.e. 5 ppm and 1 ppm, respectively) on the site as backfill. Similarly, EGLE notes that while PCB concentrations at one sampling location may meet restoration targets, PCB concentrations in adjacent soil/sediments may exceed those targets. All data, collectively, should be considered when developing the PDI, including non-chemical data (e.g. bathymetry). EGLE's non-PCB and biotoxicity and sampling from 2016 and 2018 should also be included in evaluations since those investigations did include some sample locations that may be of interest and they are the most recent data from the impoundment. EGLE has provided that information but would be willing to resend it, if needed.	
12	8	EGLE	5.1.4 Access Road and Staging Area Construction, p. 11	The text reads as follows: "Performing the Area 4 TCRA may require construction of multiple staging areas and access roads following clearing and grubbing (Fig. 8)."	Based on previous project experiences, EGLE requests that the as-constructed locations and spatial extents of any access roads or staging areas be clearly and accurately recorded in project records.	
13	9	EGLE	5.1.6 Cofferdam Construction, p. 12	Cofferdams will also be evaluated as possible means of temporarily isolating the "islands" in Areas E and F to prevent redistribution of impacted material within Area E sediments following dredging. The "island" floodplains are not included in the Area 4 TCRA scope of work; however, they present a design constraint that will be accounted for in the remedial design for Areas E, F, and G.	The islands may need to be addressed as they are located in an area that will likely experience frequent and sustained inundation following dam removal, have high concentrations of PCBs that pose risk to recreators, anglers and terrestrial and aquatic ecological receptors, and they are in an area where construction will be ongoing. EGLE notes that one sample collected during the 2018 bioxotoxicity sampling from the islands had a result of 72ppm for a sample that was a composite from 0-3.50'. EGLE collected two samples during the 2016 non-PCB sampling event on the islands and composited soils from 0-3.75' at each location and those two sample locations had total PCB results of 14.6ppm and 26.1ppm.	
14	10	EGLE	5.1.7 Imported Fill, p. 12	Any imported fill material will be sampled and tested for priority pollutants before importing to the site	Although this will likely be covered in a separate deliverable, what are priority pollutants and what thresholds will be used to determine usability of material as imported fill? Also, the material should be certified weed-free, is possible, to avoid issues with invasive species.	
15	11	EGLE	5.1.7 Imported Fill, p. 12	It is not anticipated that backfill will be needed for instream dredged areas.	Has this been evaluated from a technical perspective and, if so, why was a cap not considered? If areas are dredged how will we ensure that are not re-contaminated (e.g. sloughing of adjacent areas, deposition following remediation, etc.)? Please provide clarification.	

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16	12	EGLE	5.1.8 Contact Water Management and Treatment System, p. 12	Please note the Substantive Requirements Document (SRD) issued by EGLE's Water Resources Division (WRD) may contain parameters with effluent limits in addition to PCBs (e.g., PFAS).	Please revise document to state that the effluent limits and parameters will be issued by WRD.	
17	13	EGLE	5.1.9 Decontamination Procedures, p. 13	In addition to off-site water sources, WTS effluent, and other sources of water will be considered for washdown water if deemed appropriate by EPA. A detailed discussion on decontamination procedures is provided in the Waste Management Plan.	In general, WTS effluent re-use should be limited to on-Site activities under a testing and monitoring program that is approved by EPA and meets the Substantive Requirements set forth by the State. If alternate uses of waste water are being considered, those should be communicated to WRD as part of the Substantive Requirements process.	
18	14	EGLE	5.2.1 Air Monitoring, p. 13-14	Section 5.2.1 states that "Access roads and work areas will be routinely sprayed with water to help mitigate dust levels during dry conditions."	Please specify the source(s) of water that will be used for dust suppression.	
19	15	EGLE	5.2.2 Turbidity Monitoring, p. 14	The text discusses turbidity monitoring.	Revise the text to discuss vertical placement of turbidity monitors within the water column, acceptable thresholds in Nephelometric Turbidity Units, and changes to the proposed monitoring if flow reversal is encountered.	
20	16	EGLE	5.4 Sediment and Riverbank Soil Remediation, p. 15	In some cases, bank excavation may extend beyond what is needed to meet cleanup standards.	Revise the text to identify examples of cases where bank excavation is expected to extend beyond what is needed to meet cleanup standards.	
21	17	EGLE	5.4 Sediment and Riverbank Soil Remediation, p. 15	If feasible, clean sediment (i.e., sediment with PCB concentrations ≤ 1.0 mg/kg) may be segregated for future reuse as restoration backfill	<p>Sediment (or soil) proposed for re-use should be held to the same standards as clean fill that is brought on-site. In general, care should be taken to not exacerbate any on-Site contamination issues. Non-PCB sampling at the site shows that other a variety of contaminants other than PCBs are present in "residuals", soils, and sediments above various clean-up standards including: metals, VOCs and SVOCs, dioxins and furans, and PFAS. EGLE recommends "residuals" (paper waste) not be considered for re-use because it is a un-natural waste product, contains a variety of pollutants in addition to PCBs, and does not adequately support the growth of desirable native plant species.</p> <p>Please revise the section so it states that any material selected for reuse would need to be adequately characterized following methods acceptable to the USEPA, EGLE, and MDNR and meet applicable criteria for the proposed re-use.</p>	
22	18	EGLE	5.4.1 Riverbank Soil Excavation, p. 15 (also 5.4.5.1 Bank Restoration Techniques)	This could be done either to meet river restoration targets (such as bankfull width, floodplain inundation, long-term bank stability), or to install toewood.	Please add stable channel to the list of restoration targets. Furthermore, EGLE notes that by incorporating all applicable elements of natural channel design (including avoidance of rip-rap use), a stable channel providing additional ecological benefits and riparian areas can typically be achieved.	
23	19	EGLE	Section 5.4.5.1 Bank Restoration Techniques, p. 17	"Bank restoration and stabilization will emphasize the use of bioengineering techniques and natural channel design.....The actual techniques applied will be based on final bank angle and soil type, inundation frequency, and the velocities and shear stresses the bank will experience over all flow regimes." These statements, when combined with the statement in Section 5.1.6 about restoring banks at a stable angle of repose, raise concerns for me about the basis for bank slope design in the TCRA and the extent to which natural channel design is being incorporated. I realize that I have not been part of all of the discussions that led to the Action Memo and this Work Plan, so I apologize if this has been thoroughly discussed. I'm concerned that overly steep banks with little connection to the floodplain are being locked in place prior to final remediation of the former impoundment area in a way that does not provide an optimal overall cost to benefit ratio relative to removing enough material during the TCRA to slope and restore the banks much closer where they would need to be after final remediation to best balance natural channel design and full remediation that provides the river with a clean corridor through which it interacts with its banks and floodplain with long-term dynamic stability.	If possible at this point, EGLE requests that bank pull-back, position, and slope design objectives include consistency with expected final remedy and natural channel floodplain connectivity wherever possible.	

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24	20	EGLE	5.4.5.1 Bank Restoration Techniques, p. 18	The text discusses "Live stakes and joint planting".	EGLE suggests that GEI consult with MDNR on the possibility of utilizing locally sourced live stakes, as such materials may have increased survival as compared to materials brought in from other areas.	
25	21	EGLE	5.4.5.1 Bank Restoration Techniques, p. 19	The text discusses potential uses of rip-rap.	The NRDA Trustees assess the long-term habitat value of rip-rap banks differently than bioengineered banks and will want to know the length of bank ultimately treated this way. The NRDA Trustees request that they be kept informed of this project component.	
26	22	EGLE	5.5 Waste Management and Disposal, p. 19-20	Imported material and site waste may be disposed as non-hazardous waste when needed; however, site-wide reuse and recycling will be implemented to minimize landfill disposal.	See earlier comment re: re-use of material (Comment #11)	
27	23	EGLE	5.7 Post-Remediation Monitoring and Maintenance, p.20	After Area 4 TCRA activities are completed, post-remediation maintenance and monitoring will continue for a period of 12 months, as was done in Area 3 TCRA. Inspections of the site will be performed once per quarter and after a significant flood/storm event to monitor the success of the streambank stabilization and restoration	The post-remediation monitoring and maintenance period has not yet been determined and EGLE looks forward to more discussion on that topic. However, EGLE believes a one year (12 month) monitoring period may not be adequate.	
28	24	EGLE	5.7 Post-Remediation Monitoring and Maintenance, p.21	The text discusses physical monitoring following remediation.	The discussion in this section is limited to physical inspection. Clarify if post-remediation monitoring will include chemical analyses of newly deposited sediment or other media.	
29	25	EGLE	6.2 WCS and Dam Corridor Restoration, p. 21-22	The riffle grade control will be designed at an elevation and slope that both allows for fish passage (<3 feet per second for flows below bankfull) and holds the bed elevation at the design elevation.)	Please include discussion on whether or not the riffle design will allow recreational passage.	
30	26	EGLE	6.2 WCS and Dam Corridor Restoration, p. 21	It is anticipated that a riffle grade control structure will be left in place at the location of the dam. The riffle grade control will likely be created by rubbleizing the dam sill in place. No exposed rebar will be left in the riffle-grade control.	It is unlikely that all of the rebar will be removed and it is unclear how (other than visual verification) operators would ensure the rebar is removed. For in-place rubbleization a "veneer" of stone should be considered to protect wildlife and recreationalist by encasing and containing the concrete that still contains some amount of rebar. Please provide clarification.	

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31	27	EGL	6.3 Sediment Management, p. 22	It is likely some nonimpacted sediment will require management as the thalweg is restored and banks stabilized. The design for lowering the water at the dam and eventual removal of the dam will include specifications for the sequencing of nonimpacted sediment management and methods for controlling nonimpacted sediment.	Sediments not contaminated with PCBs may be contaminated with other constituents so the terms "nonimpacted" or "clean" are not reflective of the known sediment quality. Please use an alternate term.	